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DR. BROWN'S REPORTS OF CASES

AT THE

BOSTON ORTHOPEDIC INSTITUTION,

WITH REMARKS ON

SPINAL CURVATURE, DISTORTIONS, &c.

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BOSTON ORTHOPEDIC INSTITUTION, OR HOSPITAL FOR THE TREATMENT OF DEFORMITIES OF THE HUMAN FRAME.

THIS Institution has been in operation about eight years—with what success, the public must judge. The treatment of Club-Feet, Crooked Limbs, Wry Necks, Curvatures, and other affections of the Spine and Spinal Marrow, Tenderness and Pain of the Back, &c., comprise the principal objects for which it was founded. A large and commodious house, in a healthy situation near the Massachusetts General Hospital, has been recently taken, and is devoted to this object. It contains large halls for orthopedic exercises, and private apartments for lodging and board. It is under the surveillance of an experienced matron, who resides in the house, and a respectable widow woman takes care of the house, and furnishes board to patients, either at the common table or in their private rooms, as may be necessary.

The treatment adopted at this Institution is in conformity with that which has been for some years, and is now, so successfully made use of at the Orthopedic Institutions in France, England and Germany.

There is a LIBRARY in the Institution, for the benefit of the patients, and from which they are at liberty to take books free of charge.

JOHN B. BROWN, M.D., *Surgeon*,
Office 65 Belknap Street.

Consulting Surgeons.—John C. Warren, M.D., Professor of Anatomy in Harvard University. George Hayward, M.D., Professor of the Principles of Surgery and Clinical Surgery in Harvard University. J. Mason Warren, M.D., S. D. Townsend, M.D., and Winslow Lewis, Jr. M.D. These gentlemen render their advice and aid gratuitously whenever it is desired.

REPORTS OF CASES

IN THE

BOSTON ORTHOPEDIC INSTITUTION,

OR HOSPITAL FOR THE CURE OF

DEFORMITIES OF THE HUMAN FRAME.

WITH SOME PRELIMINARY OBSERVATIONS ON

SPINAL CURVATURE, DISTORTIONS OF THE CHEST,

AND SPINAL IRRITATION.

BY

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P R E F A C E .

I HEREWITH present to the public a few specimens of the Orthopedic art. They are but few, but enough to show what may be done by judicious treatment in relieving deformities of the human frame. Notwithstanding the light which has been thrown upon this subject within a few years, and the prevalence of belief in the beneficial effects of proper treatment, few practitioners, who have not given particular attention to the subject, are aware that such distortions can be made, so nearly, to approximate symmetrical conformation.

The art of orthopedy is not of recent origin. It was practised a hundred years ago—in the eighteenth century—but the *discovery* (of *recent date*) that tendons could be divided with impunity, gave new life to this most useful, but which had become obsolete, art. The word Orthopedy, or Orthopædy (the English spell it with a diphthong) is derived from the Greek—*orthos*, straight; and *pais*, child; straight child (or young person). The term is now extended to the art of curing deformities in general. Much of the success that attends the practice of orthopedy at the present day, may be attributed to the increased experience in mechanical treatment—the scientific adaptation of mechanical means to the cure of deformities, upon anatomical and physiological principles.

From time immemorial, no age has been exempt from pretenders to cure club-feet, spinal distortions, &c. &c. These pretenders have mostly consisted of quacks and machine-makers, who knew nothing of anatomy and physiology. Regular surgeons, finding the uncertainty, difficulty and frequent impossibility, of curing these deformities, had relinquished the practice of orthopedy to these ignorant men, who applied such means as their cupidity or fancy might suggest. The practice of orthopedy is a distinct branch of surgery, as much as dentistry, or the profession of the oculist or aurist, and should be practised exclusively. It certainly requires all of any one man's mind to treat these deformities judiciously. It would be better for the profession and for the public at large, if the duties of the profession were more divided and subdivided; for the same reason that the mechanic arts are carried to a higher state of perfection in proportion as their distinct branches are made the exclusive objects of attention by individuals. It is reasonable to suppose, that an individual who gives his exclusive attention to any one subject, will make greater progress in it than one who devotes his attention promiscuously to a variety of subjects.

Deformities of the human frame cannot be conveniently and judiciously treated, except in a Hospital or Institution expressly devoted to this object. It is not for the interest of any general practitioner of medicine and surgery to be at the expense of furnishing himself with a variety of apparatus (some of which is very expensive) required in treating these deformities. Then, again, he might not always have at command suitable mechanics. I have been obliged to keep two or three first-rate mechanics constantly in employ, for several years, in making, altering and repairing apparatus.

The Orthopedic Institution at Paris, under the direction of Dr. J. Guérin, has nearly a hundred thousand dollars invested in apparatus. The Boston Institution has a considerable amount, and is constantly increasing.

Some have asked why this class of patients could not be treated at the Massachusetts General Hospital. The answer to this is, that there would be an impropriety in patients of this description being mingled with the patients who usually resort to that useful Institution, suffering under all kinds of disease. Then, again, they have not the accommodations, as it regards room. Should they put themselves in readiness for a suitable orthopedic establishment, they ought to erect two buildings, one for males and one for females, with a gymnasium attached to each. These ought to be furnished with every variety of apparatus for correcting every variety of physical deformity; and then a skilful surgeon should be hired to give his whole attention to this business, with two or three mechanics under his direction. As well might they comprise under their wing, the Eye and Ear Infirmary, and set up the business of dentistry. These are no more remote from the object for which the Hospital was founded, than orthopedy. It requires a peculiar combination of talent to practise this branch of business with success, and he who possesses the most of the pre-requisite qualifications, will meet with the greatest success and do the most good in the community.

Deformities of the spine and chest, and their deviations, variations and improvements, are not so easily delineated on paper as those of the limbs, and would be attended with more expense. My patients, however, with curved spines, chicken breasts and other distortions of the chest, and irritation of the spinal marrow, accompanied with pain and tenderness of the back, are quite as numerous as those with deformed limbs; and if I may be permitted to express an opinion, I should say the treatment has been quite as successful.

In my treatment of these cases, in connection with the mechanical appliances mentioned on page 9, or in those cases to which such treatment is not applicable, I make use of Veratrin, variously combined to suit the nature of individual cases—Delphine—Iodine, both constitutionally and topically, in the form of drops, baths, ointment and lotions—the different preparations of Iron, Iodide, &c., and counter-irritants of various kinds, as the circumstances of the case and the health and constitution of the patient may require—warm and cold Salt Water Baths—Friction, Shampooing, &c. The diet and regimen are also particularly attended to.—For the mechanical treatment I make use of in curvatures of the spine, distortions of the chest and spinal irritation, the reader is referred to page 9 of this pamphlet.

There is one fact in connection with this subject, which I wish to state, and which I am led to suppose is not generally known in the community, viz., that physical deformities occur much more frequently among the poor than the rich. This is more particularly the case in deformities of the limbs. From my experience, I should say seven tenths of this description of deformity happen among those unable to pay the expenses of being cured. How can charity be better appropriated than for the relief of such deformities?

JOHN B. BROWN, M.D.

OBSERVATIONS ON

CURVATURES OF THE SPINE AND DISTORTIONS OF THE CHEST IN YOUNG FEMALES.

It is not my intention to write a Treatise upon the above subjects, but it seems to me important that the non-professional part of the community, particularly mothers, who have the physical and moral education of their daughters more especially under their care, should be in possession of some correct information respecting these complaints. There is so much quackery practised at the present day, in the treatment of spinal affections, that those who have the charge of growing females, should be acquainted with the causes of these complaints, the means of prevention, and so far as practicable, the most rational modes of treatment. The more correct information is disseminated upon this subject, the better it is for those who treat these deformities on scientific principles, and the less likely are the community to be duped by those whose subsistence depends on the amount of ignorance and credulity which their patients possess. Having suffered much in my own family from these complaints, I naturally feel a deep interest in the subject and for those similarly affected, and my wish is to communicate such information as I have obtained from experience for their benefit.

Spinal affections and distortions of the chest of every description appear to me to be increasing in frequency in this community, particularly among females in the opulent classes of society, a circumstance which may be attributed in part to the present mode of education, in which a greater attention is paid to the cultivation of the mind and female accomplishments, and consequently less time is spent in the cultivation of the physical powers and in those kinds of exercise which are necessary to invigorate the health and give tone to the muscular system in general, and particu-

larly to the muscles of the back, which are intended by nature to keep the spine erect and maintain the symmetry of the chest.

The habit of sitting awry in writing and drawing, and the practice of standing on one foot, may be enumerated among the causes of curvature of the spine. That species of curvature called lateral curvature of the spine, where one shoulder *grows out* and there is a flattening of the chest on the opposite side, and one hip is higher than the other, is very frequently acquired at school, by sitting on seats which have no support for the back, and writing on desks which are too high, or not adapted to the height of the occupant. This species of curvature I believe very generally commences in the loins, but it does not usually attract attention (not even the mother's), until a second curve is formed in the dorsal region and one shoulder begins to grow out, and the dress keeps sliding from off the other, and the dress-maker begins to call for padding so as to fill up the deficiency on one side, and make an apparent uniformity in the appearance of the back.

I have said that the first curve is formed in the loins. The upper or dorsal curves are a necessary consequence of the lower curve, in order to preserve the centre of gravity. Some writers have supposed the upper curves were formed first, and probably in some instances they may be ; but in a majority of cases I do not think it probable, for the following reasons. The lumbar vertebræ are the most moveable and flexible portion of the spinal column. They have to support the weight of the superincumbent body, head, shoulders and arms. They are not supported themselves and strengthened by the locking of their bony processes, and the attachment of the ribs, as the upper or dorsal part of the spinal column is. It is natural therefore to suppose, other things being equal, they would be the first to yield and curve ; and a curve being once formed in the loins, the upper curves, as I have said above, are a natural consequence to preserve the centre of gravity.

Sleeping upon feather beds, with high pillows, has a tendency to produce lateral curvature of the spine. The more frequent use of the right than the left arm, has a tendency to draw the spine to one side, by increasing the strength of the muscles round the right shoulder, so that they overcome the antagonizing power of those muscles situated round the left shoulder. This is more particularly the case with seamstresses, and those who work much at embroidery and other mechanical business, where the right arm is kept much in use.

Stays and tight lacing of every kind, whether it be in the shape of tight waists to dresses, or under dresses, or any other form, have a tendency to

produce curvatures of the spine, and to increase them after they are produced. I would caution mothers particularly on this point. Nature made your daughters in better shape than you can model them by artificial means. All these restraints are unnatural, preposterous, and contrary to the dictates of reason ; and when made use of we cannot wonder that there should be a deviation from the natural growth of parts. All anatomists agree that all unnatural restraints applied to the human body, whether in the shape of stays, tight dressing, or in any other way, have a tendency to check its growth and produce deformity in the spinal column, by weakening the muscles and other parts by which it is sustained.

The practice of some modern empirics, of applying to the female body, for the purpose of correcting curvatures of the spine, solid brass stays, or iron frames made in the shape of stays and covered with a net-work of tape to conceal the material of which they are made, cannot be too much deprecated. Those men who recommend such stays, probably do it from ignorance. I would not accuse them of malicious attempts to ruin the health of their patients. They probably have never sufficiently informed themselves on the subject to know that no apparatus applied to the body was ever yet invented, or can be invented, that will cure curvature of the spine. There is no such thing, and those who practise understandingly make no pretensions of this kind. This stay practice, so far as it is believed in (and what absurdity has not its believers? even Millerism and Mormonism have their advocates), I say this practice, so far as it is believed, has an indi-

FIG. 1. Natural Chest.

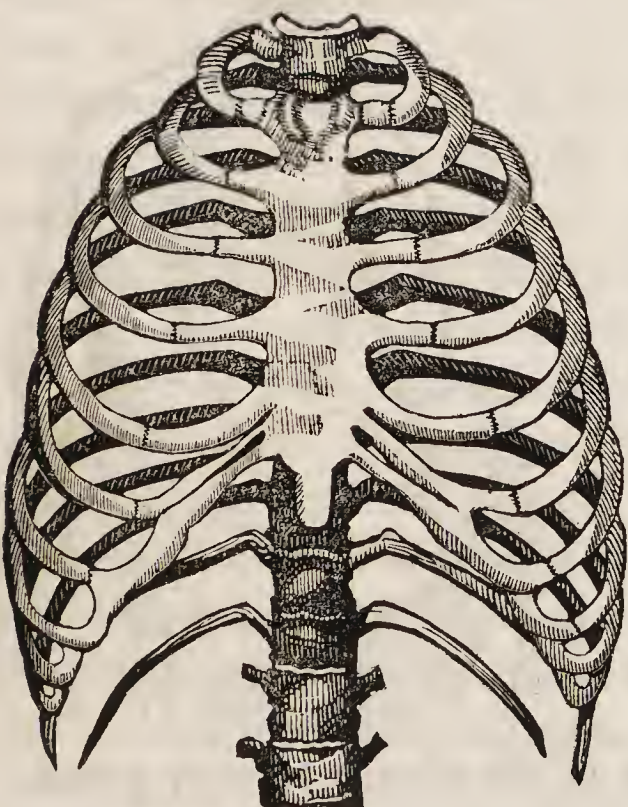
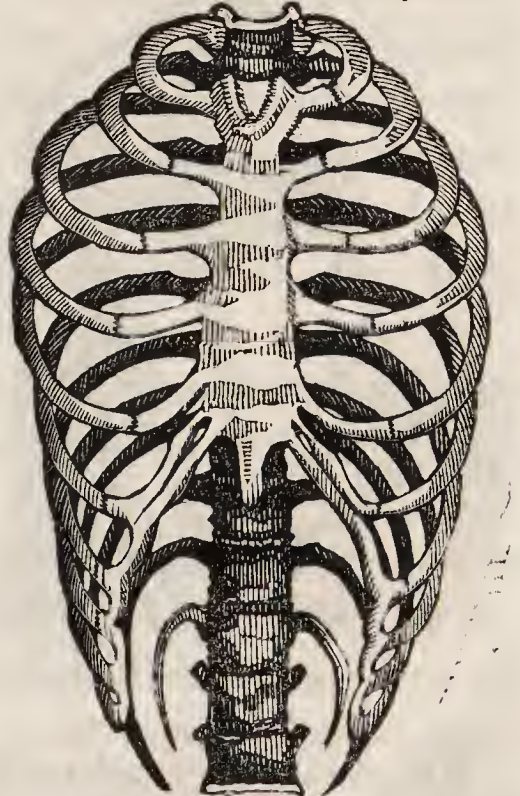


FIG. 2. Effects of Stays.



rect tendency to produce an increased number of deformed females in this community, by inducing them to believe there is no harm in wearing

stays. For the purpose of showing the pernicious effects of such practice and of stays-wearing in general, I present two drawings. One represents the natural shape of the female chest. The other represents the same chest after stays have been worn for a length of time. It will be perceived that the natural conical shape of the chest is completely inverted. The lower part of the chest, which contains a portion of the lungs, and also the heart, ought to be, and is in its natural state, the largest. The wearing of stays makes it the smallest (as may be seen by figure 2, on page 7); consequently the heart and lungs have not sufficient room to act as nature intended they should. The chest is compressed, and the lungs cannot expand to receive a full inspiration—the blood is not sufficiently oxygenized, and the health decays for the want of the vivifying principle derived from the atmosphere. Palpitations, short breath, and not unfrequently *disease* of the vital organs, follow this unnatural restraint upon their functions.

The subjoined drawings represent the lateral curvature of the spine. They are inserted, that mothers and those who have the charge of young females, may, by comparison, be able to detect the deformity when it exists, and know what it is.

FIG. 3.



FIG. 4.



Fig. 3 represents a lateral curvature of the spine at an early period of its formation.

Fig. 4, at a more advanced period.

Fig. 5, at a period still more advanced.

Fig. 6 represents a case of still greater severity, but not so much so as sometimes actually exists. (See next page.)

FIG. 5.



TREATMENT OF CURVATURE OF THE SPINE AND DISTORTION OF THE CHEST.

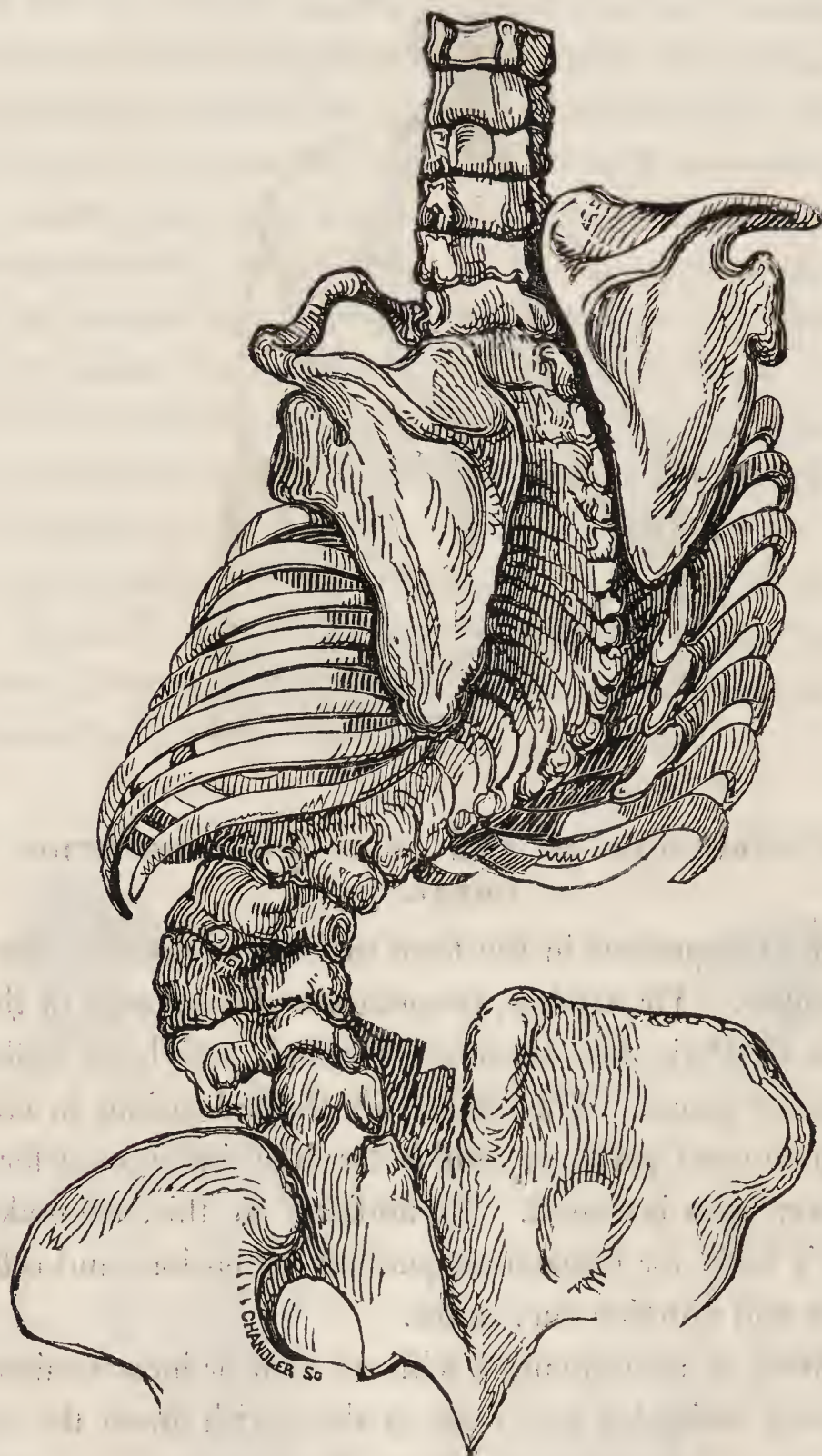
We make use of apparatus in the form of beds or couches, for correcting these deformities. Dr. Guérin, proprietor and conductor of the Orthopedic Institution at Paris, has invented a couch which he calls sigmoid extension couch, or plane. This fulfils all the indications in lateral curvature of the spine most perfectly, and is the best instrument for the purpose that has ever been invented. In addition to this, we make use of Dr. John Shaw's beds for horizontal, parallel extension, and other varieties for posterior and anterior curvatures.

The use of these is accompanied with no pain or inconvenience whatever. The young ladies lay and read on them with about the same ease they would on any other couch or sofa. We have attached exercises to them all, calculated to expand the chest and strengthen the muscles of the back and chest, which they make use of, while in a recumbent position. They recline on these about forty-five minutes each time. They then go into the exercising rooms, which are furnished with every variety of apparatus calculated to bring into action and strengthen the muscles of the back, so as to enable them to keep the spine erect.

As a body apparatus, and to keep what we get by other means, we use

what we call spinal supporters. These are used when in an erect position, and in walking and riding. At the Institution they are thrown off, and a loose dress put on so as to give perfect freedom to the use of all the

FIG. 6.



muscles. These supporters are light, elastic and easy ; and give aid to the muscles of the back, and partially relieve the spine of the weight of the head and shoulders, but we invariably tell our patients that we do not depend on them for a cure. They are used as auxiliaries merely in the process of cure. They do not impede the action of the muscles, or the motions of the body ; and as now constructed, they keep up a gentle pressure on the convexity of the spine and the excurvated ribs. They

are calculated to prevent curvatures from increasing, and are worn under the dress, so as to be entirely concealed from the eye of the observer.

SPINAL IRRITATION.

This complaint seems *also* to be increasing in frequency in this community, to whatever cause it may be attributed. By Spinal Irritation I mean a perverted state of the functions of the great spinal nerve. The power of all our voluntary motions is derived from this nerve. It may be considered the main spring of human action, and the more I reflect on its complicated functions the more formidable appears any derangement which may take place in its organization, that will produce a deviation from its natural and healthy action. There is not an organ in the human body whose disorders produce so much disturbance or more complicated symptoms. Diseases, apparently remote, have their origin not unfrequently in the spinal cord, or the nerves that proceed from it. We are apt to make our applications to the part or organ which seems particularly affected, instead of to the spine, which is the actual seat of the difficulty. Formidable complaints, such as hemiplegia, paraplegia, &c., are immediately referred to the brain, or spinal nerve, for their cause; but we seldom look to the spine as the origin of minor local diseases.

Dyspepsia, palpitations of the heart, flatulence, affections of the bowels and all the abdominal viscera, and of the upper and lower extremities, upon close examination, may be found to originate not unfrequently in some derangement of the spinal column. The anomalous complaints of young females, and also of boys, may be traced very frequently to the spine; either to some affection of the great spinal nerve, ganglia, or the nervous filaments that proceed from them.

There is no affection more common, as the consequence of spinal irritation, than a pain in the back of the head, confined principally to the scalp; and still we are not apt to look for its origin in the spinal nerves. Even a slight curvature produces a derangement in the nervous influence. An inclination of the bony column to one side, although it may be so slight as hardly to be perceptible, has its influence on the great spinal nerve. The spinal column cannot be altered (I mean permanently) from an erect position, without danger of disturbing the functions of some remote organ or part, whose nerves are supplied therefrom.

I was called to a patient not long since, a lad about 15 years old, who had a variety of complaints, not readily accounted for. He had been attended by an eminent physician, a gentleman for whom I have the high-

est respect. His complaints were a painful affection of the eyes, palpitations of the heart, indigestion, a painful affection of the scalp, and a torpid state of the alimentary canal. I immediately examined the spine, and passed my fingers up and down its whole length. I found two portions of it tender, viz. about the middle of the dorsal, and the middle of the lumbar vertebræ. When I pressed on the transverse process of the middle lumbar vertebræ, he invariably complained of pain in the abdomen. These circumstances convinced me that all his complaints proceeded from spinal irritation, and I stated my conviction to the physician who had attended him. In the course of two or three weeks three of the lumbar vertebræ began to project. They were evidently enlarged, probably from inflammation and swelling of the intervertebral substance. The attending physician was then convinced that all the complaints of this lad were caused by a disease of the spinal column and the nerves that proceeded from it, affecting remote parts and organs.

In connection with this subject, and to show how diseases in remote parts of the body may have their origin in, and be connected with, diseases of the spine and its nerves, I will relate a case which a medical friend stated to me came under his observation. The patient was a boy, who complained of extreme pain in the three small toes of his left foot. The pain was excruciating ; still no disease in them was apparent. There was no swelling, no redness, no symptom of inflammation. The appearance of the toes was natural. Leeches, blisters and poultices were applied, but gave no relief. The pain was so excruciating that the boy could get no sleep for several nights in succession. Very large quantities of laudanum were given, but without producing the desired effect. Consultations were held, and it was agreed, upon all sides, that the case was a singular one and not easily to be accounted for. The attending physician, as he was sitting by his patient one day, passed his fingers, rather accidentally, down his back, until they came to the sacrum, when the boy immediately screeched out, "let my toes alone." He then passed his whole hand upon the sacrum, and the boy cried out again, "let my blister alone," meaning the blister on his foot. The fact is, that when the doctor pressed with his fingers, the sensation was more marked and definite ; when he pressed with his whole hand, the sensation was as if the whole blistered surface of his foot was rudely touched. Applications were immediately made to the sacrum and lower part of the spine, and the boy was immediately relieved.

I have generally found that this protean disease, spinal irritation, more readily yielded to remedies when some mechanical support was applied

to the back in such a manner as not to impede the functions of the muscles, and still to act as an auxiliary to the spinal column in sustaining the weight of the head and shoulders.

The subjoined paragraphs are extracts from Docts. Tweedie and Teale upon the subject of Spinal Irritation.

“ This term has been used to designate an affection usually characterized by pain in the back, either induced or increased by pressure of the spinous processes of the vertebræ, accompanied by neuralgic and hysteric symptoms of a nature so variable as to simulate almost every form of disease to which the body is liable. Spinal irritation ought to be considered rather as an effect of disease, than as a malady *sui generis*, but as the subject is of the highest practical importance, it is proper to direct attention to it by giving a detail of its phenomena in this place.

“ *Symptoms.*—When it is remembered that the spinal cord furnishes directly or indirectly nerves to every organ in the body, the numerous symptoms which may be produced by the increased, diminished, or perverted functions of one or more of these, may be readily imagined. Hence the phenomena this affection presents differ according to the extent, seat, and intensity of this irritation, and are so greatly diversified as to prevent the possibility of giving a description which would be applicable even to the majority of cases. The only means we can think of for conveying a general idea of this disorder, is by referring to the different forms of hysteria, neuralgia, and chronic rheumatism. A combination of the symptoms occasionally presented by all three, constitutes spinal irritation.

“ The only constant symptom is more or less pain on pressing the spinous processes of the vertebræ. It may be confined to one spot, or be more or less diffused over the spinal column, pointing out the extent of the spinal irritation. In many cases the patient is unconscious of anything wrong in the back, often denies the existence of pain in that situation, and refers all the uneasiness to the ultimate distribution of the nerves arising from the part. Sometimes there is a dull constant pain, which is overlooked, and thought to be wholly unconnected with the local complaint. When pressure, however, is made on the affected part, the pain in the back is increased, and not unfrequently the patient starts as if an electric shock had been received, or falls into a state of syncope. The seat of pain generally corresponds with the origin of the nerves ramifying on the organs, or portion of the surface complained of, although in some instances, as stated by Griffin, the morbid changes in the cord appear somewhat more extensive than the external tenderness. The local pain is often

produced or increased by lifting heavy weights, or twisting the body, and has often been excited by jerks or slight concussions when walking.

“In conjunction with the spinal tenderness there may be neuralgic pains, more or less diffuse, over different parts of the surface, diminished sensibility, convulsions or paralysis; and as the functions of the different viscera and organs of the body are often impaired, various diseases are simulated. * * * * At other times, instead of neuralgic pains, there is a sense of numbness in the hands or feet, extending more or less over the extremities. We have seen a case where the only symptom was excessive coldness in the hands and fingers, that often amounted to actual pain, and prevented the individual from sewing, and carrying on her usual employments. If the spinal irritation be more severe, the internal organs participate, and the symptoms produced vary according to the portion of the cord that is affected.

“When the spinal tenderness is confined to the cervical portion, there may be headache; loss of voice; neuralgic pains in the face and gums; trismus; various disorders of vision, as ocular spectra, *muscæ volitantes*, night blindness, &c.; more or less deafness or confused sounds in the ears; diminished or perverted sensation of taste and smell; dysphagia; paralysis of the tongue; sickness; vomiting; loss of appetite, inordinate hunger and thirst; pain at the stomach; pyrosis; difficult breathing, cough, irregularity of the pulse; palpitations; disposition to syncope; paralysis of one or both arms, sometimes confined to the fingers, hands, arms, or shoulders; increased sensibility or numbness in those situations; pricking, formication, &c. Although these symptoms may have coincided at different times with cervical tenderness, it is evident that many of them, more particularly such as affect the special senses, arise from irritation of the cranial portion of the cord. When vertigo or delirium is present in such cases, it is probable that the brain itself is more or less affected. When the irritation is in the dorsal region, the palpitations of the heart and dyspnœa are more marked; there is sometimes dry cough; pleurodynia; pain under the clavicles, in the shoulders and superior extremities; sense of constriction in the thorax, often like a tight band; neuralgic pains in the side; diminished sensibility in the breast and epigastrium; more or less derangement in the digestive organs, &c. When it is situated in the lumbar portion, the symptoms are, pain in the parietes of the abdomen, hypogastrium, loins, and genito-urinary apparatus; symptoms resembling gravel in the kidneys, ureters, or bladder; irritable uterus; cramps and increased sensibility, or palsy more or less complete in the inferior extremities.

“When the spinal irritation is more diffused, there is an admixture or combination of the above symptoms. Hence the occasional difficulty experienced in tracing the various undefined symptoms to their true source. Cases of angina pectoris, asthma, different forms of neuralgia and hysteria, spasmodic croup, convulsions, hydrophobia, epilepsy, tetanus, chorea, paralysis, spasmodic colic, diarrhœa, cholera, irritable bladder, &c., are recorded by Griffin, all of which have been connected with the spinal irritation, and disappeared on its departure. It often happens that the spinal tenderness shifts its position, when the other symptoms change also. A remarkable case is detailed by Griffin of a young lady, in whom the symptoms successively assumed the appearances of organic lesion of the lungs, heart, and abdominal viscera, together with an endless variety of other complaints of a neuralgic, asthmatic, epileptic, cataleptic, and paralytic nature. Indeed, the singular changes the disease undergoes, render it impossible to obtain a perfect knowledge of its numerous forms, without studying in detail the extraordinary cases which have been recorded of it.”

“There are many individuals in whom the complaint has existed, in varying degrees of intensity, for a series of years, without its real nature having been suspected; the patients and their medical attendants having regarded it throughout as a rheumatic or a nervous affection.

“Many individuals, as young females and mothers of families whose domestic duties require the complete exertion of their energies, are often unjustly accused of indolence, when laboring under the state of muscular debility to which I have alluded. They have felt an unconquerable disinclination to exertion, and a desire for sedentary pursuits, without even themselves being aware of the cause of this inertness.”

CASES

TREATED AT THE

BOSTON ORTHOPEDIC INSTITUTION.

CASE OF CLUB-FOOT AND CURVATURE OF THE SPINE.

December 9, 1840, Miss A. E., ætat. 25, daughter of a distinguished clergyman, now deceased, placed herself under my care. She has varus congenitus of the left foot, of the third degree. The temperature of the limb is lower and the foot smaller than the other. The leg is also smaller, and an inch and a half shorter than its fellow. The tarsal bones are loose and easily moved on each other. She is constitutionally slender and delicate, and has not enjoyed good health from infancy. The spine is badly curved, in consequence of her irregular manner of walking; and the sternum hollowed in posteriorly, so as to impede the free action of the lungs and heart. She has frequent palpitations, and labors for breath, particularly on going up an ascent, or making a hurried effort of any kind.

16th. Divided the tendo-Achillis, and the tibialis anticus, in the presence of Dr. J. Mason Warren, and applied my apparatus, as usual, on the same day.

17th. Has had no pain, and rested well.

26th. Removed the dressings for the second time. Found the puncture made in dividing the tendo-Achillis, somewhat inflamed, and had a festering appearance. The ankle was slightly swollen. Applied empl. plumbi, and bandaged the leg.

27th. Found the appearance of the puncture much as yesterday. The orifice was open, and not healed as usual by the first intention. In doing this operation, I made use of a knife, in breadth not more than the twelfth of an inch, but the integuments were more divided than usual when I use the tenotome. Probably some air was admitted.

29th. On removing the dressings, found the orifice not healed, and discharging a thin, ichorous matter. The skin was inflamed around it, and the integuments adhered to the tendon. Applied court plaster, bathed the limb with camphorated spirit, and bandaged the foot and leg. At night applied a poultice made of sol. acet. plumbi and bread.

31st. Appears much better. Inflammation has subsided, and the parts look more healthy.

Jan. 5th, 1841. There is some œdematous swelling of the ankle, but the orifice has closed. Continued bandages and spirituous solution.

20th. Put on a boot. She is to wear this during the day, and apply the apparatus at night.

May 23d. It is now nearly five months since Miss A. E.'s foot was operated upon. She has walked very well, and occasionally in the streets, for the last two months; and for a longer time about the house. The foot is nearly normal, and she begins to think about taking measures for correcting the curvatures in the spine.

On minute examination, I find she has four lateral curves. The upper one extends quite up to the os occipitus. She inclines her head to the right, and is in the habit of resting it on the right fore-arm and hand; the elbow being supported on a table, chair, or any convenient article that may be near her. The greatest curvature is situated about the middle of the dorsal vertebræ, with its convexity towards the right side. The deviation here is two inches from the mesial line. The right shoulder is elevated. The right scapula projects, and there is very considerable excurvation of the ribs on this side. I asked her if she was willing I should cut her back. She unhesitatingly said yes. Dr. J. C. Warren, my friend and brother-in-law, was called in consultation. He advised to an operation.

May 25th. Divided this day the longissimus dorsi, the sacro-lumbalis, and trapezius, in the presence of Dr. J. Mason Warren and Dr. J. V. C. Smith. There was very little blood lost in the two operations, and she bore them with that cheerfulness and equanimity which so strongly mark her character. While in the act of dividing the muscles, she was asked if it hurt her. She smiled, and said "a little—not much." A compress was applied and secured by a bandage.

26th. Slept little last night, owing principally to the compress, which was rather thick, and the tightness of the bandage. Removed the bandage and compress, and applied a common poultice, moistened with tinct. opii. She suffers no inconvenience from the division of the trapezius. Afternoon of this day, she is now quite comfortable; has slept considera-

ble ; still feels some dull pain in her back. Recommended, if it continued, 25 drops of tinct. opii at night—also sol. sulph. magnesia.

27th. Slept well. Says she has no pain, but a weary sensation in her back. Laid four hours on the extension plane this morning, without its causing the least uneasiness.

28th. Slept well. Suffers no pain or uneasy sensation in the back or neck. In fact, the division of the trapezius has occasioned no inconvenience whatever, from the first. She has moved her head with perfect freedom. There is a slight tenderness in the back on pressure upon the parts where the muscles were divided.

31st. Has had no pain since last date. Has spent most of the days on the extension plane, and a part of each night. Back much improved.

June 15th. The back continues to improve daily, but she complains that in walking her foot inclines on the outer side. On examination, I find that the foot has outgrown the shoe of the boot, and consequently the foot is cramped and twisted, which causes the weight of the body to rest too much on the outer marginal surface. I regret that I had not known this circumstance before, as it might easily have been prevented by substituting a suitable boot. She has now been walking for some weeks in this cramped condition of the foot.

18th. Think it best to re-divide the tibialis anticus, and the abductor proprius polices pedes, and re-apply the foot-apparatus, which I did.

July 1st. Miss A. E. wore the foot-apparatus nearly a week, without attempting to walk ; after which she had a boot made adapted to the improved state of the foot, and sufficiently long, since which she has taken her usual walks, with perfect ease to herself, and with the sole of the foot resting naturally on the sole of the boot.

Sept. 6th. The foot is almost entirely restored. It is now fourteen weeks since the operation on the back. She has passed one week of the time in the country. With this exception, she has very steadily pursued a course of orthopedic means to bring the spine into a normal shape. The greatest deviation now is only one fourth of an inch from the mesial line. She has gained over an inch in height, and her health has very much improved. Notwithstanding the various operations on her foot and back, and the various mechanical means she has made use of, she has been regularly gaining flesh and strength ; and her health is in every respect much better than when she came to Boston.

CASE OF PES EQUINUS ACQUISITUS OF RIGHT FOOT.

JOHN GATES TRULAN, of Andover, Massachusetts, was placed under my care.

June 15th, 1841. The heel is elevated to the fullest extent, and cannot be brought down by the hand, on account of resistance of the tendo-Achillis. The knee is contracted to sixty degrees from a right angle with the thigh. The whole limb, and particularly the foot, is twisted inward. There is a slight convexity of the tarsus externally. The weight, as he walks, rests upon the extreme end of the metatarsal bone and joint of the little toe (see fig. 7).

FIG. 7.

FIG. 8.



June 22d. I divided the tendo-Achillis and flexor longus pollicis pedis, and applied "my apparatus."

July 13th. It is now three weeks since the operation, and John walks fairly on the sole of his foot, although he continued to use his crutch.

Aug. 10th. He threw aside his crutch, and walked anywhere about the city.

Aug. 17th. Eight weeks after the division of the tendons, John's foot had improved to the state represented in fig. 8.

CASE OF DOUBLE VARUS CONGENITUS.

MISS E. A. SAWTELL, æt. 10, entered the Institution May 9th, 1840.

She has double varus congenitus of the third degree ; left foot the worst ; both feet are turned in to nearly a right angle with the legs. She rests her weight, when she stands or walks, on the outside of the feet and the external ankle, the sole looking upward. As she steps, one foot goes over the other. (See figs. 10 and 12.)

FIG. 9.

FIG. 10.

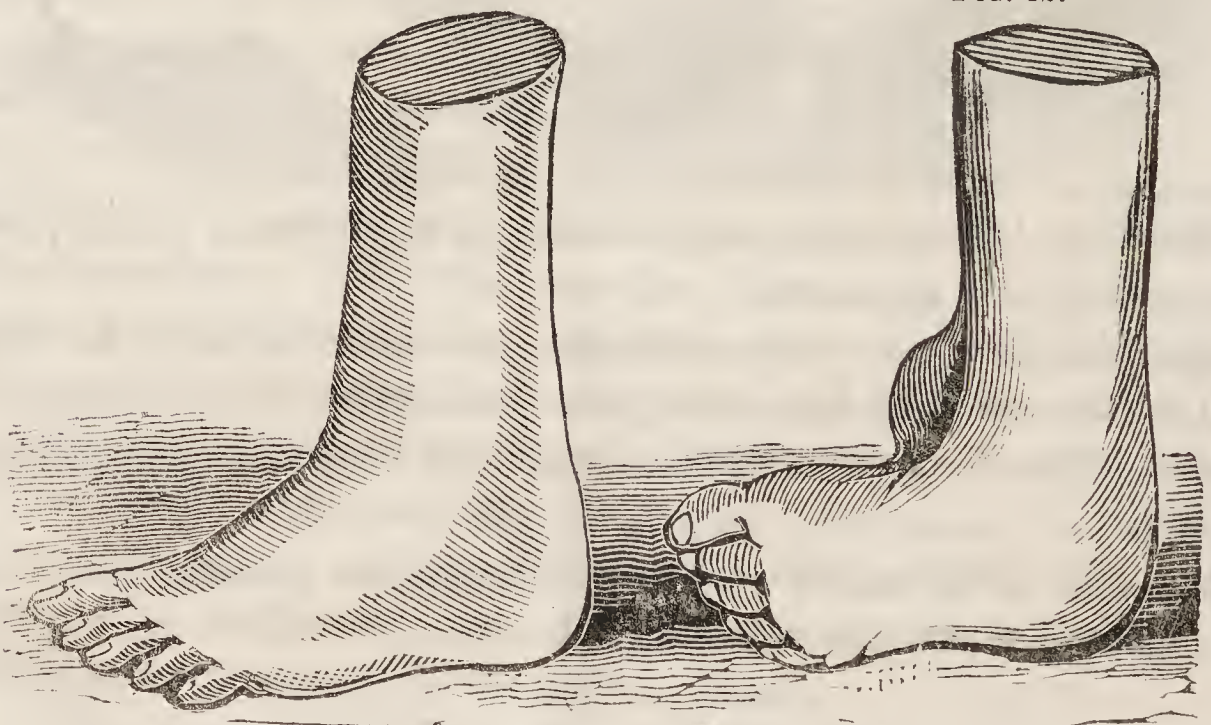


May 14. Divided the tendo-Achillis in both feet, and the tibialis anticus in the left foot, in the presence of Drs. J. Randall and E. W. Leach.

July 30. It is now rather more than six weeks since these feet were operated upon. They are both very much improved, and she walks very

FIG. 11.

FIG. 12.



well. The right foot has improved faster than the left. There appears to be a thickening of the sheath of the heel cord, which prevents the heel from being brought down. Re-divided, this day, the tendo-Achillis, together

with its sheath. She returned home in about twelve weeks from the time she came to the Institution. Her feet are as represented in figures 9 and 11.

After Miss Sawtell's return home, the following favorable notice of the case appeared in the *Boston Medical and Surgical Journal*, communicated by her physician, Dr. Wilder, of Groton, Mass.

“ Miss Sawtell, of Groton, æt. 10, general health good, muscles well developed, and what is termed double varus of the third degree, as bad as it could well be, as the feet were nearly vertical. The point of support was the outer ankle, nearly up to the end of the fibula, and the foot so completely turned that the sole looked nearly upwards. The unnatural points of support were most of the time so much inflamed as to be very painful, and many times so much so as to prevent sleep. Walking, or rather hobbling, was exceedingly difficult and painful, precluding all expectation of her limbs ever being of much service to her. Upon being informed of the improvements in surgery, and of the skill and success of Dr. J. B. Brown, of Boston, her friends determined to place her under his care, which they did the 14th of May last, where she remained until the 23d of August, when she returned with her feet entirely changed, so that she placed the sole of the foot perfectly on the floor, with the soles in the position they should be, in relation to the limb, neither in nor out too much. When the muscles and tendons have had time to become accustomed to their present position, and regain full strength, I think it will be a case of complete success, and that she will not only walk with ease, but elegance.

A. H. WILDER, M.D.”

CASE OF PES EQUINUS VARUS CONGENITUS OF RIGHT FOOT.

July 22d, 1841, Mr. ———, aged 55, of Boston, placed himself under my care with a deformed foot, which has afflicted him from birth. When he stands the heel is elevated six inches from the floor. The great toe is turned up, so as to render it impossible for him to wear any kind of shoe. (See fig. 14.) The ham-strings are shortened, so as to keep the knee permanently bent. By inquiring into the history of this case, I find that some of his relations are affected in a manner not very dissimilar. There seems to be a hereditary predisposition, in this family, to a contraction of the muscles, particularly of the hands, feet and back. I have now a niece of this gentleman under my care, who has been troubled with contraction of the small toes, so as to produce much inconvenience and

pain in walking. I have divided the flexor tendons of some of them, which enables her to walk with ease. She also has a lateral curvature of the spine, arising from the unnatural contraction of some of the associated muscles of the back. She has been at the Institution, pursuing orthopedic exercises, about six months, and is very much improved; the deviation is now very slight. Six months more will entirely correct the deformity, and restore her to perfect symmetry. This case is mentioned, as one of many others, where particular deformities run in particular families. I have now under treatment a boy, who has two club-feet of the worst kind. His father has two of the same kind. His uncle, who is now dead, had two, his grandfather one—seven in one family. I have also a lad under treatment, in whom the ham-strings of the left leg are shortened, the knee permanently bent to a certain extent, and the left foot so much distorted as hardly to be recognized as a human foot. It may be technically called *pes equinus varus*. M. J. Guérin, of Paris, would denominate it *l'équin varus*—a combination of two distinct species of club-foot, united under one generic term. But even this complex technicality does not give an idea of the extent of the deformity in this case. The foot may be considered as an exaggerated and varied condition of two species of club-foot, viz., *pes equinus* and *pes varus*, combined. This lad has a sister with one foot somewhat similarly affected, and a cousin with both feet. But enough of family idiosyncrasies. I will proceed with the report of my case.

FIG. 13.

FIG. 14.



The gentleman of whom I was speaking cannot be said to have walked for the last ten years. He has only been able to hobble across the room,

and into the adjoining house, by the aid of a crutch and cane, resting his weight partially on the outside of the metatarsal bone and joint of the little toe. The foot is shorter than its fellow, and the entire limb is shorter and very considerably smaller than the healthy one.

This day, July 22d, I divided the tendo-Achillis, and the extensor tendon of the great toe, in the presence of Dr. J. W. Gorham. The divided ends of the tendo-Achillis separated two and a half inches at once. My usual apparatus was immediately applied—the foot-board having been first perforated, so as to admit a strap for the purpose of reducing, and confining the great toe in a natural position.

Sept. 1st.—The heel is perfectly down, and he treads fairly on the sole of his foot. The toe was immediately brought straight, and has continued so. It was necessary to confine it but a few days. (See fig. 13.)

Oct. 4th.—Put on a boot with a steel support on one side, and directed him to walk as much as he could.

The knee still inclines to bend forward, but he can bring it straight by volition. He walks rather imperfectly at present, but this is not to be wondered at, as the leg has been out *of employ* for many years. It will acquire strength by use, and there is no doubt but he will walk well in the course of a few months. He has no reluctance in representing his own case as it *was*, and as it *now is*; and his name may be known by inquiring of me.

CASE OF TORTICOLLIS, OR WRY NECK.

Miss H. S., ætat. 7. The right sterno-cleido-mastoideus muscle strongly contracted. The face is turned over the left shoulder, and the back of the head over the right and almost in contact with it. She has the visage of a wry-neck patient, but not so much so as in cases where the deformity is congenital. The angle of the mouth is depressed and drawn down. The left eyebrow is elevated above the right. The right side of the head is so strongly inclined to the right shoulder as to give an obliquity to all the features of the face. This deformity was the sequel of scarlatina maligna; and so far as my experience extends, non-congenital deformities and contractions of muscles are more frequently the result of this disease than any other.

She has combined with the torticollis a lateral curvature of the spine. The greatest deviation is between the shoulder-blades, the convexity being towards the right, but there is an acute angular convexity of the cer-

vical vertebræ towards the left, produced by the strong and permanent contraction of the sterno-cleido-mastoideus muscle, which draws the back of the head over and nearly on to the right shoulder.

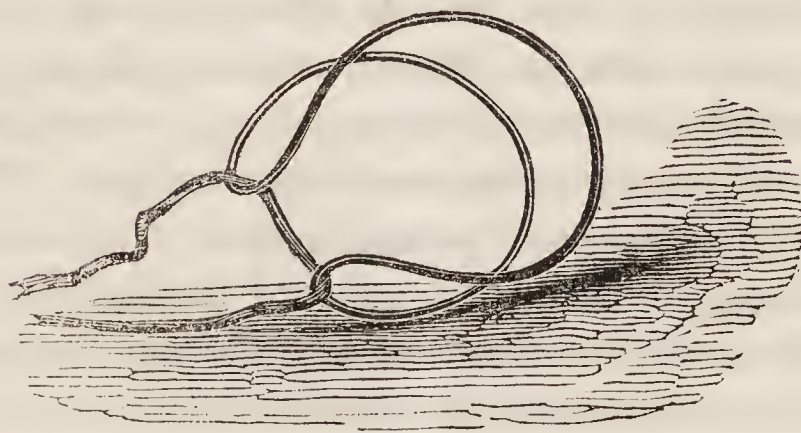
March 6th, 1840. After a consultation with Dr. J. C. Warren, I divided the sternal branch of the sterno-cleido-mastoideus, in presence of Drs. Thompson of Charlestown, Pratt of the House of Representatives of Mass., J. M. Warren, and E. W. Leach. Applied the paste-board stock after the manner of Dieffenbach, which was used for some weeks, but to very little effect. This day, April 18th, applied an apparatus which I contrived for the purpose. It consisted of a brass belt resting on the hips, with crutches coming up under the arms, the anterior extremity of which, on the left side, extended to about the height of the top of the head—and the posterior extremity on the right side extended to about the level of the ear. The tops of these were connected by a steel wire in the form of an arch, which went over the head for the purpose of giving them support. Each of these uprights had a spring attached at the top and running at right angles, an inch wide and six inches long; the one on the left side running posteriorly, and that on the right anteriorly. A cap was made for the head, of brown cambric, so as to fit, and a strap attached on the right side and brought round posteriorly and buttoned to the top spring on the left side. Another strap of the same material was attached to the cap on the left side, brought round the chin, and buttoned to the right top spring. These straps acting together, had the effect of elevating the head, and bringing its posterior part from the right shoulder, to which it inclined, towards the left, and of bringing the chin, which inclined towards the left shoulder, round to a front position. This operated very well, and much was gained towards bringing the head into a normal position; but the divided branch of the sterno-cleido-mastoideus united so quickly as not to give time to correct the acute angle which its contraction had produced in the cervical vertebræ, and the cleidal portion of this muscle also became a barrier to the restoration of the head to a natural position. It was thought best, after a consultation, to divide this branch, and also to re-divide the sternal branch of the sterno-cleido-mastoideus, which was done in the presence of Drs. J. M. Warren and E. W. Leach. The head did not turn suddenly round, and perform all manner of evolutions, as represented by some writers who have done the same operation, but it gradually came round, and as much as it could consistently with the previous contracted cervical and dorsal curvatures. When these curvatures are entirely corrected, I have no doubt the head will assume its normal position and be placed as it should be, in a mesial line between the

shoulders. In fact, it is so much so now, that an acquaintance of the family, a lady, who called in, having heard that one of the children had a wry neck, asked which it was, all being present.

FIG. 15.



FIG. 16.



The application of the apparatus above described is represented in the cuts. A B, fig. 15, are the top springs, to which are attached two straps. The one running from right to left, back of the head, is buttoned to a knob at the end of spring A, which runs backwards over the left shoulder. The other, running from left to right under the chin, is buttoned to a knob at the end of spring B, which runs forward over the right shoulder. Both acting together have a tendency to bring the head into an upright and central position. C, the crutches which run from the brass belt up under the arms. D, a strap running front of the body,

which connects the two ends of the brass belt, and keeps it steady upon the hips.

Fig. 16 represents a wire stock which was made use of when the apparatus above described was taken off. This may be folded in a neckerchief as a stiffener and tied in front, or the wire may be covered with velvet and a ribbon passed through the two ends, and tied back of the neck, as is here done.

It is a mistaken idea to expect to restore the head to its normal position in torticollis by simply dividing muscles; still, the division of muscles is a necessary prerequisite step. There is always in wry neck of long-standing a lateral curvature of the spine, particularly of the cervical part of it. Subsequent treatment is necessary, and the same kind of means ought to be adopted, as made use of for correcting lateral curvature.

CASE OF PES EQUINUS VARUS.

The following communication from the Rev. Chauncey Eddy, of Saratoga, New York, was published in the *Boston Medical and Surgical Journal*, May 11, 1842.

To the Editor of the *Boston Medical and Surgical Journal*.

SIR,—The notices which have appeared in your Journal, of successful operations performed by Dr. John B. Brown, for the cure of club-feet, induced me to place a little son, afflicted with this infirmity, under his care. I did it after much hesitation and deep anxiety, lest the lad might be subjected to pain, and myself to expense, without a cure. Testimony from some responsible, disinterested person, such as I can now give, would have been exceedingly valuable to me, and I therefore suppose mine may be to others who are in the same state of doubt and anxiety in relation to what they ought to do for their afflicted children.

Dr. Brown does not need my assistance or recommendation. Though under much obligation to him for his kindness to my son, in many ways expressed, and for the cure he has performed on very reasonable terms, I do not write this for his benefit, but for those who are deformed or have deformed children, and are ignorant or doubtful in relation to the fact that they can be easily and quickly cured.

The case of my child did not differ materially from other cases of club-feet seen every day. The whole limb, from the hip downward, was turned inward so as to bring the knee-pan (excuse my omission of your anatomical nomenclature) and the toes of the foot in the direction of the

other leg. By a retraction of some of the tendons, and too great laxness of others, the foot was turned over, the heel drawn up as far as it could be, so that it had not the appearance of a heel ; all the bones in the instep were out of their proper position, and in the ankle there was none but a side-way motion. When he began to stand, the side or outer ankle was upon the floor, and the sole was nearly behind. From his birth I had his foot kept as much of the time as was possible in its normal position, and when he began to walk, I had him furnished with a boot that not only turned the sole upon the floor, but forced the whole limb around into its proper direction, with the knee-pan and toes a little out. By compelling him to walk in this way, and to sleep in the boot as much of the time as he could endure it—for it was quite painful—I hoped the cords, kept thus continually extended, would become sufficiently lax to suffer the bones of the foot to remain in their places. But after six years of effort and expense on the part of his parents, and much suffering on his part, there was not the least improvement. As soon as the constraining apparatus was taken off, we had nothing but a deformed club-foot.

He was about six years of age when I brought him to Dr. Brown. Respecting the treatment of the case, I need to say nothing, except that the surgical operation occasioned no more pain than the prick of a pin or the opening of a vein with a lancet. After the heel-cord had been separated for a few weeks, it was necessary to part two others on the instep, and after a time others ; but after the first operation, the lad had so little fear or dread of another, that he requested me to let him see it done, and while the operation was performing, he looked on as attentively as the operator, without wincing—not because he is insensible to pain, or has uncommon fortitude, but simply because the tendons having no sensibility the cutting of them did not hurt him. The cords being severed, the foot was placed in a boot very ingeniously constructed, so as to bring a slight pressure upon the protruding points, and at the same time turn the whole foot and limb towards their proper position by such slow degrees as to occasion no suffering. In a very few days the boy was walking, much better than he had ever done before, and for the first time without any pain ; and since that time he has continued to improve slowly. The process of recovery must necessarily be slow. Now, after about twenty months, there is nothing in his gait nor in the appearance of his limb to indicate that he was ever deformed, except that it is much less in size than the other. But as it is rapidly developing, the disparity in this respect will soon disappear. For a thousand times the amount the cure has cost, I would not have had him grow up with the deformity, because

I have seen in other instances the inconvenience and the suffering which it occasions.

If this meets the eye of any person who is afflicted in the way my son was, or the eye of parents who have children thus deformed, my object will be accomplished if it induces them to go, without delay, fear or doubt, to Dr. Brown for a cure. It is cruelty, of which no parent ought to be guilty, to suffer a child to grow up with such a deformity, when a cure can be obtained at so cheap a rate as it can now be ; and it is almost equal cruelty to effect a cure, as in some instances has been done, by machinery alone, extending the cords by force, and crowding the bones into their places against the action of the tendons. By relieving the contracted tendons, and then, with proper apparatus, gently and slowly pressing the protruding parts into their places, and inclining the limb or member to its proper place and direction by degrees, a cure can be effected with less than an hundredth part the suffering that will result from either of the other courses.

I mention the name of Dr. Brown as the proper person to call upon, because I have seen the patients of four surgeons of three different cities, and none of them except Dr. B.'s had apparatus at all suited to the purpose. Some were suffering severe pain from theirs, some will derive no benefit from the operation, and I have seen but one that will probably be cured ; and that because, being an infant, it has the hand of its nurse for a boot to keep it in its place. Any surgeon can separate the cords well enough ; but the cure depends more upon the machinery that is afterwards used, than all things else. I have reason to presume that there is none in the country to be compared with that invented and used by Dr. Brown.

Yours, &c.

Saratoga Springs, N. Y., April, 1842.

CHAUNCEY EDDY.

To the Editor of the Boston Medical and Surgical Journal.

SIR,—I noticed in No. 14 of your Journal, a communication from the Rev. Chauncey Eddy, dated Saratoga, N. Y., giving a representation of his son's case of club-foot ; and happening to have in my possession the casts of the foot referred to, I take the liberty of sending you a wood-cut of the same, to be inserted in the Journal. I will observe that when Mr. Eddy's son first came under my care, there was no motion of the ankle-joint. Such was the rigidity of the muscles, that the tibia and fibula did not move on the astragalus. Now the motion is as free as in the other foot. Mr. Eddy says, in his communication, " Now,

it is about twenty months," &c. It is true that from the time his son entered the Institution to the date of Mr. Eddy's communication, twenty months had intervened ; but it may, perhaps, be well to observe that the lad had spent three fourths of that time at his father's residence in Saratoga, N. Y. It is unnecessary to occupy your pages by giving a minute detail of treatment. Suffice it to say, that those tendons which restrained and kept the foot fixed in its unnatural position, were divided, and some of them more than once.

FIG. 17.

FIG. 18.



In the above cut, fig. 18 represents the foot as it was when the lad was brought to the Institution for treatment ; fig. 17 shows it as it now is.

JOHN B. BROWN.

Boston, May 23, 1842.

CASE OF PES EQUINUS VARUS.

The following case is remarkable only on account of the age of the patient—being the oldest ever operated upon for the cure of club-foot, either in this country or in Europe. The case of a gentleman in Boston, æt. 55, which I reported in the *Boston Medical and Surgical Journal* about two years ago, was then, I believe, and still is, the oldest on record previous to the one I shall now concisely describe.

Mrs. Smith, of Boston, æt. 73, was attacked with hemiplegia, the left side being affected. She partially recovered the use of her arm and leg. Certain muscles, however, were permanently contracted, and remained so after a lapse of two years. These were the flexors of the fingers, the *gastrocnemii*, and the *tibialis anticus*. The fingers were so much con-

tracted (and still remain so) as to keep the hand nearly closed ; still she has the use of the arm. By the contraction of the gastrocnemii and the tibialis anticus, the heel was elevated and the foot turned in towards the other, forming that species of club-foot called *pes equinus varus*, of the second degree. When she attempted to walk, which she could only do by assistance, the weight of her body came upon the outer margin of the anterior portion of the metatarsal bone of the little toe. This became very sore. She had, besides, constant pain in the whole of the foot, which had existed for two years. She consulted Dr. Gay, her physician, Dr. Z. B. Adams who had attended her during Dr. Gay's absence in Europe, and Dr. Bigelow. They stated to her they thought favorably of an operation, and advised her to consult me, which she did. My only doubts were whether, at her advanced age, and in her feeble state of health, the tendons would unite, if divided. I, however, made up my mind that dividing the tendons would relieve the pain, from which she had been a constant sufferer two years ; and again, that if the tendons never united, I would put on apparatus which would enable her to walk much better than she then did. Accordingly, I divided the tendo-Achillis and the tibialis anticus, in presence of Dr. Gay and Buckminster Brown. I applied my usual apparatus. In a few days the pain in the foot was relieved, and in the course of a fortnight entirely left her. The tendons are united, and she walks with ease. Her health has improved, and she has gained flesh, as is remarked by all her acquaintance.

FIG. 19.

FIG. 20.

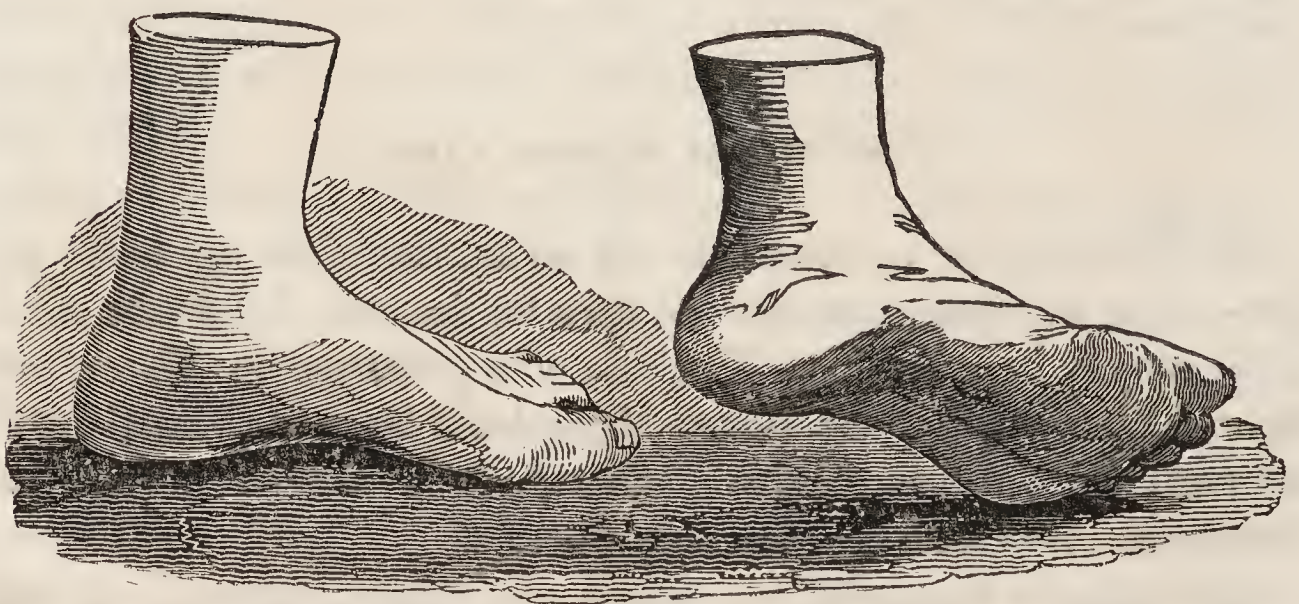


Fig. 20 represents the foot as it was eight weeks ago.

Fig. 19 represents it as it now is.

It will be perceived, in this drawing, that the leg makes an acute angle with the foot. / This is done to show that the ankle-joint has its free and

natural motion. It is a mistaken notion that a foot is cured, when brought in a parallel line with the leg, laterally, even if it can be flexed to a right angle with it. It may appear very well as the patient stands, but very awkward when he walks. We all make an acute angle between the foot and leg every step we take, and particularly in going up an ascent. A person would make awkward work in going up Mt. Washington with feet which could only be flexed to a right angle with the leg. The fact is, a person who can merely flex his feet, so as to bring them at a right angle with the leg, must turn them in, or out, every step he takes, in order to give the propelling power forward; and it is most natural to turn them in. Hence it is that feet which have been cured in this way (and many such have been reported), will, after being walked upon a short time, revert to their pristine obliquity, or nearly so. The importance of the free use of the ankle-joint, and the necessity that the foot should be capable of forming an acute angle with the leg, have not been noticed by writers on the cure of club-foot with sufficient emphasis: and, in fact, I do not recollect any author who has mentioned it at all.

CASE OF PES EQUINUS VARUS ACQUISITUS AND CONTRACTURE OF THE KNEE JOINT.

Sept. 30, 1841.—John Kilby, Esq., of Dennysville, Maine, placed his son, a lad about 13 years old, at the Institution. The following account of the case and treatment is copied from my Note Book. This lad has not walked without a crutch for many years. The left knee is contracted to an angle of 30 degrees, beyond which it cannot be extended. The foot on the same side is more deformed than any one I have met with. If it was separated from the leg, and the toes broken off, no one would suspect what it was, or for what purpose it was made. When the anterior part of the foot is placed upon the ground, the heel is elevated four inches. The anterior part of the foot is twisted inwards, in a very unusual manner. The astragalus is very prominent, being subluxated upward and outward. There is no motion in the ankle-joint. The cuboidal extremity of the metatarsal bone of the little toe projects outward to a very unusual degree. All the metatarsal bones oblique inwards. The sole of the foot looks upwards, the foot being turned nearly upside down. The toes are turned back, so as to be nearly in contact with what ought to be the top of the foot. The little toe presses back against the meta-

tarsal bone of the toe next it. There is a thickening of the integuments on the outside of the little toe and the upper side of the metatarsal bones of the toes next it, marking the point on which the body rests, when the foot was placed on the floor.

FIG. 21.



FIG. 22.



This day, Sept. 30, divided the tendon of Achillis and the long flexors in the sole of the foot. There was not a drop of blood. My son, Buckminster Brown, was present, and aided me in this, as in all the subsequent operations on this foot and leg.

It would be tedious, and is unnecessary, to go through with a long, detailed, daily record of the treatment of this case. Suffice it to say, that the tendon of Achillis was divided five times; the long flexors in the sole of the foot, three times; the abductor pollicis pedis, twice; the plantar fascia, the biceps flexor cruris, the semitendinosus, and the semimembranosus, each once.

The apparatus for leg and foot, used at this Institution, were applied

to this case. It was not until after the fourth division of the tendon of Achillis, that I was able to reduce the subluxated astragalus. I could then with my thumbs press it into its place, and even make an *indentation* where the greatest prominence had existed; but this bone had been so pinched and wedged in, that it was not sufficiently developed to fill the space nature designed for it. It was difficult to retain it in place. By perseverance, however, the foot and leg were brought to the state of perfection represented in fig. 22.

Fig. 21 represents the foot and leg as they were when the lad came to the Institution.

Fig. 22 represents them as they were when he left.

CASE OF A REMARKABLY DEFORMED CHILD.

The following account of this case is copied from my Note Book.

September 14, 1843.—William Willis, Esq., with Mrs. Willis, child and nurse, arrived from Portland, Maine. The child is a boy about 5 months old. He exhibits the following singular deformities. Both hands are permanently flexed and pronated. (See fig. 23.) The wrists are partially dislocated. All the fingers, and the thumb of each hand, are contracted. The thumbs are subluxated by the preternatural contraction of their abductor muscles. The shoulders are curled in towards each other, so as to leave only the space of one inch and three fourths between them, measuring across the breast, in front, from one to the other.

The left thigh is permanently flexed, on the pelvis, to an angle of 45 degrees, and the left foot is clubbed. The right foot is also clubbed (double varus of the 3d degree). The right leg is completely twisted round, so that the calf and heel are in front—the foot looking directly back. The tibia is on the outside, and the fibula is on the inside of the leg. The knee-pan is felt in the ham. The whole lower leg, and all the apparatus by which it is naturally moved, are completely reversed. The knee can be but slightly bent. The body and head of the child are symmetrical, and the countenance intelligent. The child is the offspring of healthy parents. No deformity can be traced on either the paternal or maternal side of the family. The grandfather, on the maternal side, is the Chief Justice of the State of Maine, Ezekiel Whitman, LL.D.; and on the paternal side, Benjamin Willis, Esq., of Boston. The father, William Willis, Esq., is a prominent lawyer of Portland, Me. There is

no reason to suppose that the deformity of this child is in any way hereditary. The mother was alarmed, previous to his birth, by the discovery of her own house being on fire, in the night, which burnt to the ground. She imputes the malformation of her infant to this cause, and perhaps not without reason.

19th.—Divided the palmaris longus, in the right hand. Also the tendons of the long flexor muscles and the abductor pollicis pedis in the right foot; and the tendons of the long flexors in the left foot; and put on an extemporaneous apparatus upon both legs. This consisted of a metallic belt, extending round the back and resting on the hips, with uprights on each side, extending to the feet, with joints corresponding to the joints of the leg; and so constructed as to turn *out* the left foot and leg, and turn *in* the right foot and leg. This was made of malleable iron, so that it could be easily bent to any necessary angle, and still stiff enough to sustain the position in which it was placed.

Drs. J. C. Warren, Hayward, Townsend, Z. B. Adams, Homans, Fisher, Perry, the lamented Wiley,* Lane, J. Mason Warren, and Lewis, saw this patient before treatment commenced. The case was evidently looked upon as one which offered very little hope of relief. Still, no discouragement was thrown in the way of any judicious efforts which might be made for the restoration of the child.

23d.—This is the fourth day since treatment commenced. The child was quietly asleep in half an hour after the operation on the 19th inst. The leg is nearly restored to a natural position. The knee-pan is now in its place, instead of being in the ham as it was four days ago.

October 18.—Divided the abductor pollicis, in the left hand, which very much liberated the thumb.

December 4.—The child has now been at the Institution about eleven weeks. It is plump and healthy. It will return home to-morrow, about as straight in its limbs as most children. The only difficulty to be apprehended is the one I stated to the parents, when I first saw the child, viz., that there may be a deficiency of nervous influence; and that the muscles, in consequence, may not have their full and complete action. It is to be hoped, however, that by perseverance in a judicious course of treatment, the nerves will be excited to a healthy action, and that the muscles will perform their appropriate functions.

It was a subject of regret to me, that the medical gentlemen who ex-

* Dr. Wiley has since deceased, leaving a character worthy of imitation.

amined this child, when it was first brought to Boston, could not have seen it again immediately before it left; but circumstances prevented. Dr. Winslow Lewis was the only one of them who saw it immediately (and I believe on the day) before it was taken home. As the transformation was so great as to be in danger of staggering the credulity of some, I have requested him to state the facts, as they appeared to him on his first, and also upon his second, examination.

FIG. 23.



FIG. 24.



Fig. 23 represents the child as it was when it came.

Fig. 24 represents it as it was when it left.

The following is the note from Dr. Lewis, alluded to above.

I witnessed, with the greatest interest, the happy termination of the above case, as I visited the little patient in his very deformed state, which is accurately described by Dr. Brown; and although aware of the great success of orthopedic surgery, I did not anticipate that so much could have been effected. The cure is complete as regards the position of the extremities, and eminently shows the judgment and skill of the operator.

WINSLOW LEWIS, JR.

